

Notice of Allowability

Application No.

10/779,685

Examiner

Russell Frejd

Applicant(s)

STRUJIS, ROBERT

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment received 14 December 2006.
2. ☒ The allowed claim(s) is/are 1-52.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Russell Frejd
RUSSELL FREJD
PRIMARY EXAMINER

In re Application of: Struijs

Allowance of Application # 10/779,685

1. The following communication is in response to applicant's amendment received 14-December-2006. Claims 1-52 are pending in the application.

Examiner's Amendment

2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee. Authorization for this Examiner's Amendment was given by Roland Long Jr. (Reg. No. 41,949) on 2-February-2007.

2.1 In the Claims:

claim 1 line 31 Change "Nfirst coordinate lines" to --N first coordinate lines--.

In the Specification:

Delete the text of the specification pertaining to the appendices, beginning on page 56, line 22 through page 177, line 7.

In re Application of: Struijs

Reasons for Allowance

3. The following is an Examiner's Statement of Reasons for the indication of allowable subject matter.

3.1 The instant application is directed to a non-obvious improvement over the invention described in the information described in the book authored by Hirsch, entitled *Numerical Computation of Internal and External Flow*, which teaches the steps for the numerical simulation of fluid flows, including the various levels of approximation of a flow system, the most frequently applied discretization methods for differential equations, and the resolution of the methods for the analysis of the stability, convergence and accuracy properties of a selected discretization.

3.2 The improvement of the present invention comprises, in various embodiments, a method of simulating behavior of a flow interacting with an object, wherein the approximation of space derivatives of a parameter of the flow is numerically simulated by including in the approximation, a combination of: the extent of the stencil S ; values of the parameter at points which do not lay on grid lines passing through the point of computation P ; and the optimization of the approximated value D_p^A using the preferential direction, which are used to optimize the approximation. This patentable distinction is included in independent claim no. 1.

3.3 The art of record, either individually or in combination, fails to teach, suggest, or render obvious the method of simulating behavior of a flow interacting with an object, having the corresponding structure which is disclosed in the specification and equivalents thereof at least at page 16, line 2 through page 57, line 20, and Figures 1-19. In view of the foregoing, the claims of the present application are found to be patentable over the prior art.

In re Application of: Struijs

Response Guidelines

4. Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

4.1 Any response to the Examiner in regard to this allowance should be

directed to: Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, or the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

mailed to: Commissioner of Patents and Trademarks
P.O. Box 1450, Alexandria, VA 22313-1450

or faxed to: (571) 273-8300

Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

Date: 2-February-2007



**RUSSELL FREJD
PRIMARY EXAMINER**